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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/039,910	10/20/2001	Umit Tarakci	PA1884US	1005

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CARR & FERRELL LLP
2200 GENG ROAD
PALO ALTO, CA 94303

EXAMINER

JAWORSKI, FRANCIS J

ART UNIT	PAPER NUMBER
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3737

DATE MAILED: 04/13/2004

12

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/039,910

Applicant(s)

TARAKCI ET AL.

Examiner

Jaworski Francis J.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-48 is/are pending in the application.
- 4a) Of the above claim(s) 10-14 and 18-47 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 15-17 and 48 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB(08))
Paper No(s)/Mail Date <u>10</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 10-14, 18-47 stand withdrawn from consideration after restriction in paper No. 7. Claims 1-9, 15-17 and 48 are present for examination.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Proudian et al (US4917097). Claim 1 as amended calls for specificity in the cableless coupling assembly such that it comprises 'intermediate elements coupled to electrical pads'. Proudian et al teaches an ultrasound imaging system including an ultrasound transducing assembly 44 and electrodes, intermediate elements in the form of conductive traces 46 coupled to electrical pads 56, and signal generating and receiving units 54 as defined in cols. 12-15, the transducer array and signal generating/receiving units being coupled via the conductive trace-electrical pad connection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2 –4, 6-9, 15-17 are again rejected under 35 U.S.C. 103(a) as being unpatentable over Kunkel (US5648942) alone or further in view of Gilmore (US6043590) or Smith et al (US57448980). Kunkel teaches providing a combined acoustic isolation-intrinsically conductive post assembly 12 to an ultrasound imaging array. Irrespective of applicants' inferentially defining 'coupling' as connecting, see Fig. 11A, B, the Examiner is arguing against the amended base claim 2 that applicants' claim means 'in the conductivity path of' with no further limitation as to immediacy or direct mechanical connection, whereupon the conventional printed-board to cable contemplated in Kunkel col. 5 lines 9-44 versus applicants' page 4 para [0011] definition of prior art conventionality nonetheless meets the claim language as providing electrical connection between the signal generator/receiver and the acoustic isolating assembly. (Claims 2, 7). Alternatively, Gilmore with 20 teaches direct flex circuit electrical connection via such a dual function backing to a transmit/receive circuit. Alternatively still, Smith et al teaches bring the T/R circuitry into the scanhead for direct connection to the array and its backing for density and cable-less purposes, whereupon 12 of Kunkel would attach directly to such integrated circuit in underlay to the array. Kunkel teaches acoustically active material between electrodes (col. 1 lines 30-32) (claim 3). as well as matching layers 64, 68 (claim 4). Filler material 14 of Kunkel fills the kerfs defining posts 12. (Claim 6). The posts of Kunkel would be anisotropic internally and isotropic with respect to the exterior due to being boundarized by the

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insulating filler. (claims 89, 16-17). An acoustic window or non-blocking aperture is essential as in the camera sense in order to transmit the ultrasound out of the device. See also Smith et al fig. 5 discussion and claim discussions supra. (Claim 15).

Claim 5 is again rejected under 35 U.S.C. 103(a) as being unpatentable over Kunkel alone or further in view of Gilmore or Smith et al as applied to claim 2 above, and further in view of Daigle (US5795297) which would teach immediate connection of motherboard 80 of Fig. 3 to the beamformer and scanhead as part of streamlined PC interfacing within the scan system.

Claim 48 again is rejected under 35 U.S.C. 103(a) as being unpatentable over Kunkel in view of Gilmore or Smith et al, since Kunkel alone meets an electrical connection relationship to the T/R circuitry as discussed above, and the method is merely the essential implementation of the structure combination for ultrasound imaging with such acoustically attenuative but electrically conductive backing.

Response to Amendment Arguments

Revision of Claim 1 wording has necessitated a new ground of rejection.

Revision of claim 2 wording to pertain to connection between the acoustically isolating assembly and the signal generating and receiving unit embraces electrical connection between physically remote elements as well as direct mechanical connection.

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Unamended claim 48 remains rejected for reasons set forth in the earlier Office action, since an analogous argument to that against claim 2 applies, namely that electrical connection may be had between physically remote elements such as claimed.


Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication should be directed to Jaworski Francis J. at telephone number 703-308-3061.

FJJ:fjj

4-4-04


Francis J. Jaworski
Primary Examiner